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10/518,030

12/15/2004

Toshiko Yokota

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6449 7590 01/30/2007
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EXAMINER

GOFF II, JOHN L

ART UNIT

PAPER NUMBER

1733

| SHORTENED STATUTORY PERIOD OF RESPONSE | NOTIFICATION DATE | DELIVERY MODE |
|--|-------------------|---------------|
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3 MONTHS

01/30/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/30/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary

Application No.

10/518,030

Applicant(s)

YOKOTA ET AL.

Examiner

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 15 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/22/05, 12/15/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 1 and 3-5 are objected to because of the following informalities: In claim 1, line 5 delete "the". Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andresakis et al. (U.S. Patent 6,657,849) in view of Wada et al. (U.S. Patent 6,383,323).

Andresakis et al. disclose a copper clad laminate for forming a capacitor layer for use in a printed wiring board comprising a first copper foil having a metallic seed layer of nickel formed

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on the foil and a dielectric filler-containing polyimide coating formed on the seed layer, a second copper foil having a polyimide thin film coating formed on the film, and the first and second foils laminated to each other such that the coatings contact each other to form the copper clad laminate having a layered structure consisting of a first copper foil, a dielectric filler-containing polyimide dielectric layer, and a second copper foil (Figures 1 and 2 and Column 1, lines 8-15 and Column 3, lines 3-9 and Column 4, lines 8-51). Andresakis et al. disclose the dielectric filler comprises a barium titanate dielectric powder (Column 4, lines 59-60). Andresakis et al. do not teach the dielectric filler is a globoid dielectric powder having a perovskite structure which is 0.05 to 1.0 μm in an average particle size D_{IA} , 0.1 to 2.0 μm in a weight cumulative particle size D_{50} based on a laser diffraction scattering particle size distribution measurement method, and 4.5 or less in a coagulation degree value represented by D_{50}/D_{IA} where the weight cumulative particle size D_{50} and the average particle size D_{IA} obtained from an image analysis. Wada et al. disclose dielectric filler having a strong dielectric property used in forming a capacitor layer comprising uncalcinated barium titanate dielectric powder wherein the powder is a globoid dielectric powder having perovskite cubic crystal structure having an average particle size of 0.05 to 0.15 μm and a maximum particle size of about 0.3 μm or less (Column 1, lines 14-21 and Column 2, lines 3-8, 19-21, and 44-48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the barium titanate dielectric powder taught by Andresakis et al. the barium titanate dielectric powder shown by Wada et al. having a strong dielectric property.

It is noted Wada et al. is considered to teach the claimed weight cumulative particle size D_{50} and coagulation degree in view of the average particle size taught by Wada et al. being

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completely encompassed by the claimed range and the disclosure of the maximum particle size taught by Wada et al. as about 0.3 μm or less, i.e. the weight cumulative particle size D_{50} of the powder taught by Wada et al. would be substantially less than the maximum particle size taught by Wada et al. resulting in the claimed weight cumulative particle size D_{50} and coagulation degree. In the event it is considered the dielectric filler taught by Wada et al. does not necessarily meet the claim limitations the following rejection applies. It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the weight cumulative particle size D_{50} and coagulation degree in Andresakis et al. as modified by Wada et al. as a function of the dielectric property of the fillers as doing so would have required nothing more than ordinary skill and routine experimentation, it being noted one of ordinary skill would have expected the weight cumulative particle size D_{50} and coagulation degree of the powder taught by Andresakis et al. as modified by Wada et al. to fall within the claimed ranges as the dielectric filler-containing polyimide coating taught by Andresakis et al. as modified by Wada et al. is consistent and in agreement with the claimed and described in applicants specification.

As to the limitation of applying the dielectric filler-containing polyimide coating by electrodeposition, this limitation is not considered to further limit product claims 11 and 18 (See MPEP 2113).

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5. Claims 1-10 and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andresakis et al. and Wada et al. as applied to claims 11 and 18 above, and further in view of Hashizume et al. (JP 05047611 and see also the abstract).

Andresakis et al. and Wada et al. as applied above teach all of the limitations in claims 1-10 and 12-17 except for teaching of applying the dielectric filler-containing polyimide coating by electrodeposition, it being noted Andresakis et al. suggest the coating may be applied as a solution and Andresakis et al. are not limited to any particular application method (Column 3, lines 10-34). Hashizume et al. disclose depositing a dielectric polyimide coating onto a metal substrate in the formation of a capacitor by electrodeposition to form the coating without pinholes and having excellent adhesion strength (See the abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the dielectric filler-containing polyimide coating solution taught by Andresakis et al. as modified by Wada et al. by electrodeposition as shown by Hashizume et al. to form the coating without pinholes and having excellent adhesion strength.

Regarding claims 3, 8, 12, and 15, Andresakis et al. do not specifically teach the content of the dielectric filler in the dielectric filler-containing polyimide electrodeposition solution is 50 g/L to 350 g/L. However, Andresakis et al. teach the dielectric filler is present in an amount of about 5% to about 80% by volume of the dielectric material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the specific content of the dielectric filler in the dielectric filler-containing polyimide electrodeposition solution taught by Andresakis et al. as modified by Wada et al. and Hashizume et al. as a function of the dielectric property of the coating solution as doing so would have required nothing more than

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ordinary skill and routine experimentation, it being noted one of ordinary skill would have expected the content to fall within the claimed ranges given the broad ranges disclosed by both Andresakis et al. and that claimed.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 27 and 30 of copending Application No. 10/532,717.

Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 27 and 30 of copending Application No. 10/532,717 fully encompass claim 1.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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8. Claims 3-5 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 27 and 30 of copending Application No. 10/532,717 as applied above, and further in view of Wada et al. Claims 27 and 30 of copending Application No. 10/532,717 as applied above teach all of the limitations in claims 3-5 except for using barium titrate as the filler having the claimed properties which is obvious in view of Wada et al. as set forth above.

This is a provisional obviousness-type double patenting rejection.

9. Claims 1 and 3-5 are directed to an invention not patentably distinct from claims 27 and 30 of commonly assigned copending Application No. 10/532,717.

10. The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned copending Application No. 10/532,717, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

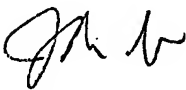
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Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571) 272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John L. Goff